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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,953	03/30/2001	Kenneth William Willman	7973MR	3897

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CINCINNATI, OH 45224

EXAMINER
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PIERCE, JEREMY R

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 06/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/821,953

Applicant(s)

WILLMAN ET AL.

Examiner

Jeremy R. Pierce

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.135(e). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 135).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 38-47, 49-60 and 64-79 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 38-47, 49-60 and 64-79 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/30/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment filed on March 26, 2004 has been entered. Claims 48 and 61-63 have been cancelled. Claims 38, 43-45, 50, and 58 have been amended. New claims 64-79 have been added. The new limitations added to claims 38, 42, 50, and 58 are sufficient to withdraw the 35 USC 102 and 103 rejections over Metrick (U.S. Patent No. 5,198,293) and Lerner et al. (U.S. Patent No. 5,198,292) as set forth in sections 8, 10, and 11 of the last Office Action because neither the Metrick nor Lerner et al. reference teach the substrate to be macroscopically three-dimensional.

### ***Claim Objections***

2. Claim 87 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 87 is the same as claim 71.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 76 and 88 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 76 recites the "raised regions have a rounded parallelogram shape in the X-Y dimension." However, this limitation is not supported in the specification. If Applicant is deriving support for this limitation from the drawings, then wording must also be placed in the specification that is analogous as to what appears in the claim.

Claim 88 recites the "cleaning sheet is folded such that said working face faces outwardly." Support is not found for this limitation in the specification.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 76 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 76 recites the "raised regions have a rounded parallelogram shape in the X-Y dimension." What is the shape of a rounded parallelogram? Is it round, or are opposing sides parallel?

***Claim Rejections - 35 USC § 103***

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7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 38-47, 49-60, and 64-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lerner et al. (U.S. Patent No. 5,198,292) in view of Ngai (U.S. Patent No. 6,314,627).

Lerner et al. disclose a cleaning cloth comprising pressure sensitive adhesive and tackifier (Abstract). Lerner et al. disclose using a hydroentangled web as the substrate (column 5, lines 55-66), but do not disclose hydroentangling to provide a macroscopically three-dimensional substrate. Ngai also teaches a hydroentangled nonwoven fabric that is efficient for wiping solid matter (Abstract). Ngai discloses that a three dimensional quality is provided to the fabric in the form of ridges, bumps, or other geometric configurations that are discernable to the human eye in order to provide a fabric that is far more efficient at collecting solid than a flat fabric (column 2, lines 30-67). It would have been obvious to a person having ordinary skill in the art at the time of the invention to provide a three dimensional texture to the fabric of Lerner et al. in order to improve the ability of the tack cloth of Lerner et al. to retain solid particles, as taught by Ngai. With regard to the amount of polymeric additive incorporated into the substrate, Ngai teaches that the three layer substrate will weigh between 30 and 120 grams per square meter (see column 4, line 55; column 5, lines 31-32; and column 8, lines 31-34). Lerner et al. disclose the amount of polymer material, based on the dry

fabric weight, may vary between 3 and 50% depending on the desired end use (column 8, lines 19-23). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use between 0.1 and 10 gsm of polymeric additive, since the percentages provided by Lerner et al. would embrace that range. Also, the amount of polymeric additive used would be a result effective variable depending on the weight of the fabric, and whether a low-activity tack cloth or high-activity tack cloth were desired for the end product (see Lerner et al., column 8, lines 19-23). It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). With regard to claims 39 and 40, similar reasoning applies to the smaller ranges of polymer additive recited in these claims. With regard to claims 42, 56, and 57, Lerner et al. disclose using polyisobutylene (column 6, line 54). With regard to claims 43-47, 50-52, 55, 59, and 60, Lerner et al. fail to disclose the Adhesive Work Value, Tack Value, Cohesive/Adhesive Ratio, and Stringiness Value of the cleaning sheet. Although Lerner et al. do not explicitly teach these property limitations, it is reasonable to presume that said limitations are inherent to the invention. Support for said presumption is found in the use of similar materials (i.e. pressure sensitive adhesive and tackifier) and in the similar production steps (i.e. impregnating a substrate within the claimed amount) used to produce the cleaning sheet. The burden is upon the Applicant to prove otherwise. In the alternative, adjusting the amount of polymer material in the substrate would obviously have provided the claimed properties. The amount of tacky polymer used would be a result effective variable that when adjusted, would affect Applicant's claimed

resulting properties. It would have been obvious to a person having ordinary skill in the art at the time of the invention to adjust the amount of polymer present in the cleaning sheet in order to optimize the sheet to the claimed properties, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. With regard to claim 49, Lerner et al. disclose various pressure sensitive adhesives, including styrene butadiene rubber and acrylic polymers (column 7, lines 3-42). With regard to claim 53, although Lerner et al. does not disclose the glass transition temperature of the tacky polymer, it is reasonable to presume that said limitations are inherent because Lerner et al. disclose the same class of tacky polymers (column 6, lines 28-62) that Applicants claim (claim 56). The burden is upon the Applicant to prove otherwise. In the alternative, adjusting the glass transition temperature of the polymer would be adjusting a result effective variable, affecting the tackiness of the polymer. It would have been obvious to a person having ordinary skill in the art at the time of the invention to adjust the glass transition temperature of the polymer in order to optimize the tack properties, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. With regard to claim 54, Lerner et al. discloses the tackifier to have a molecular weight less than 30,000 (column 6, line 32). With regard to claim 58, a sheet impregnated uniformly in an amount of between 0.1 and 1.5 gsm would met the zone of adhesive limitations. With regard to claims 64-66, Ngai disclose transferring a pattern from a forming support, and specifically recites U.S. Patent No. 5,098,764 to Drelich et al. for an example of usable forming supports (column 2, lines 41-48). Drelich et al. disclose the forming

support to have a height differential from peak to valley of 0.229 cm (column 11, line 8). Therefore, the average height differential of the Ngai substrate would be at least 1.5 mm. With regard to claims 69 and 70, Drelich et al. disclose the peaks are spaced on 0.21 cm centers (column 11, line 12). With regard to claims 67 and 68, the surface topography index calculated using the above height differential and peak-to-peak values falls within the claimed ranges. With regard to claim 71, Ngai discloses the substrate is nonwoven (column 2, line 15). With regard to claim 72, the pattern disclosed by Drelich et al. is non-random. With regard to claims 73-75 and 84-86, Drelich et al. disclose the forming support to have a height differential from peak to valley of 0.229 cm (column 11, line 8). With regard to claim 76, although Ngai does not disclose the shape of the raised regions, it would have been obvious to a person having ordinary skill in the art at the time of the invention to form the raised regions in the shape of a rounded parallelogram since selection of the shape is part of the process of selecting the design pattern of the nonwoven fabric. Optimizing a desired pattern, absent any unexpected results, is an obvious modification to one having ordinary skill in the art. With regard to claim 77, the recessed regions would form a continuous pattern using the forming supports disclosed in Drelich et al. With regard to claims 78 and 79, although neither Ngai nor Drelich et al. disclose channel width, it is reasonable to presume that the claimed width is inherent because the dimensional properties of the three-dimensional pattern of raised regions are similar. Alternatively, it would have been obvious to a person having ordinary skill in the art at the time of the invention to have the recessed pattern include a channel width between 1 and 8 mm in order to create sufficient space



between raised regions so that the three-dimensional structure is properly allowed to trap solid particles, as taught by Ngai (column 2, lines 60-67). With regard to claim 80, Lerner et al. teach the entire fabric uniformly contains the polymeric additive (column 3, lines 6-9). With regard to claim 88, Lerner et al. disclose that the amount of tack allows for folding (column 6, line 45). With regard to claim 89, Ngai teaches the three-dimensional structure traps solid material (column 2, lines 60-67).

### ***Response to Arguments***

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Pierce whose telephone number is (571) 272-1479. The examiner can normally be reached on Monday-Thursday 7-4:30 and alternate Fridays 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRP  
JRP

*Elizabeth M. Cole*  
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PRIMARY EXAMINER